

Remarks

The foregoing amendment amends claims 1 and 11 and adds new claims 17-20. Pending in the application are claims 1-20, of which claims 1 and 11 are independent. The following comments address all stated grounds for rejection and place the presently pending claims, as identified above, in condition for allowance.

Claim Amendments

Applicant amends claims 1 and 11 to clarify the scope of the claimed invention. In particular, claims 1 and 11 are amended to recite that the first hydrogen occlusion material is different from the second hydrogen occlusion material. Support for the claim amendment can be found on page 9, lines 3-23. No new matter is added.

Amendments to the Specification

Applicant amends the specification to correct a typographical error. In particular, the paragraph beginning at page 9, line 3 is amended to change "Mm is mesh metal" to --Mm is mish metal--. No new matter is added.

Claim Rejections - 35 U.S.C. §102(b)

Claims 1-5, 7-9, 11 and 15 are rejected under 35 U.S.C. §102(b) as being anticipated by JP 11-265725. Applicant respectfully traverses the rejection for the following reasons.

Independent claim 1 is directed to a fuel cell power generation system having a hydrogen reservoir that occludes non-used hydrogen discharged from a fuel cell and releases the occluded hydrogen to the fuel cell. The hydrogen reservoir has a first storage section having a first hydrogen occlusion material and a second storage section having a second hydrogen occlusion material. The first storage section occludes the non-used hydrogen discharged from the fuel cell. The second storage section occludes hydrogen released from the first storage section, and supplies the occluded hydrogen to the fuel cell. *The first hydrogen occlusion material is different*

from the second hydrogen occlusion material. Claims 2-5 and 7-9 depend upon claim 1. Independent claim 11 is a method claim that parallels claim 1. Claim 15 depends upon claim 11.

Applicant respectfully submits that JP 11-265725 does not disclose that *the first hydrogen occlusion material is different from the second hydrogen occlusion material*, as recited in claims 1 and 11. JP 11-265724 discloses a fuel cell system. In Fig. 5 of the JP 11-265724 reference, two hydrogen storing metal alloy tanks (6a, 6b) are connected in series between the output of the hydrogen reclaimer (4) and the input of the fuel cell (3). JP 11-265724 also discloses that the hydrogen storing metal alloy tank (6b) located on the side of the hydrogen reclaimer (4) has a large capacity and stores the hydrogen collected by the hydrogen reclaimer (4). JP 11-265724 further discloses that the hydrogen storing metal alloy tank (6a) has a small capacity, stores the hydrogen supplied from the hydrogen storing metal alloy tank (6b), and supplies the hydrogen to the fuel cell (3).

In comparison, the claimed invention recites that the first hydrogen occlusion material is different from the second hydrogen occlusion material. The first hydrogen occlusion material may be a hydrogen occlusion alloy that can *occlude* hydrogen easily, and the second hydrogen occlusion material may be a hydrogen occlusion alloy that can *release* hydrogen easily. For example, the first hydrogen occlusion material may be of a low pressure occlusion and high temperature release type, as recited in claims 17 and 19, and have characteristics to occlude hydrogen at 80°C, 0.15MPa and to release hydrogen at 130°C, 0.8MPa. $\text{LaNi}_{3.96}\text{Co}_{0.6}\text{Al}_{0.44}$ alloy (Mm is mish metal) can be used as such hydrogen occlusion material, as recited in claims 18 and 20. The second hydrogen occlusion material may be of a high pressure occlusion and low temperature release type, as recited in claims 17 and 19, and have characteristics to occlude hydrogen at 60°C, 0.5MPa and to release hydrogen at 30°C, 0.15MPa.

$\text{MmNi}_{4.04}\text{Co}_{0.6}\text{Mn}_{0.31}\text{Al}_{0.05}$ alloy (Mm is mish metal) can be used as such hydrogen occlusion material, as recited in claims 18 and 20. See the specification, page 9, lines 3-23. JP 11-265724 does not disclose that the hydrogen occlusion material in the hydrogen storing metal alloy tank (6a) is different from the hydrogen occlusion material in the hydrogen storing metal alloy tank (6b).

In light of above, Applicant respectfully submits that JP 11-265724 does not disclose each and every element of claims 1 and 11. Applicant therefore requests the Examiner to reconsider and withdraw the rejection of claims 1-5, 7-9, 11 and 15 under 35 U.S.C. §102(b), and pass the claims to allowance.

Claim Rejections - 35 U.S.C. §103(a)

Claims 6, 10, 12-14 and 16 are rejected under 35 U.S.C. §103(a) as being unpatentable over JP 11-265725. Applicant respectfully traverses the rejection for the following reasons.

Claims 6, 10, 12-14 and 16 depend upon one of claims 1 and 11, and add separate and patentable limitations to one of claims 1 and 11. Applicant respectfully submits that JP 11-265725 does not teach or suggest that *the first hydrogen occlusion material is different from the second hydrogen occlusion material*, as recited in claims 1 and 11. JP 11-265724 does not teach or suggest that the hydrogen occlusion material in the hydrogen storing metal alloy tank (6a) is different from the hydrogen occlusion material in the hydrogen storing metal alloy tank (6b).

In light of above, Applicant respectfully submits that JP 11-265724 does not teach or suggest all of the limitations of claims 1 and 11. Claims 6, 10, 12-14 and 16, which depend upon one of claims 1 and 11, are not rendered obvious over the cited prior art reference. Applicant therefore requests the Examiner to reconsider and withdraw the rejection of claims 6, 10, 12-14 and 16 under 35 U.S.C. §103(a), and pass the claims to allowance.

New Claims

Applicant adds new claims 17-20 to depend upon one of claims 1 and 11 and to recite further limitations for the first hydrogen occlusion material and the second hydrogen occlusion material. In particular, claims 17 and 19 are added to recite that the first hydrogen occlusion material is of a low pressure occlusion and high temperature release type and the second hydrogen occlusion material is of a high pressure occlusion and low temperature release type. Additionally, claims 18 and 20 are added to recite that the first occlusion material is $\text{LaNi}_{3.96}\text{Co}_{0.6}\text{Al}_{0.44}$ alloy and the second hydrogen occlusion material is

MnNi_{4.04}Co_{0.6}Mn_{0.31}Al_{0.05} alloy (Mm is mish metal). Support for the new claims can be found on page 9, lines 3-23. No new matter is added. In light of foregoing arguments, Applicant submits that the new claims are patentably distinct over JP 11-265724 and in condition for allowance.

Conclusion

For these reasons, Applicant contends that claims 1-20 are in condition for allowance. Should the Examiner feel that a telephone conference with Applicant's attorney would expedite prosecution of this application, the Examiner is urged to contact the Applicant's attorney at (617) 227-7400.

Applicant believes no fee is due with this statement. However, if a fee is due, please charge our Deposit Account No. 12-0080, under Order No. OCW-002 from which the undersigned is authorized to draw.

Dated: September 8, 2005

Respectfully submitted,

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